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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,152	12/07/2001	Oh-Kyong Kwon	06161.0015.NPUS00	9932
22930	7590	04/06/2004	EXAMINER	
HOWREY SIMON ARNOLD & WHITE LLP			DINH, DUC Q	
BOX 34			ART UNIT	
1299 PENNSYLVANIA AVENUE NW			PAPER NUMBER	
WASHINGTON, DC 20004			2674	

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/005,152		KWON, OH-KYONG	
	Examiner		Art Unit	
	DUC Q DINH		2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

a) Claims 1-16 and 22-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1-16 recites the limitation “wherein one end of the first switch is directly connected to the data line and the other end of the first switch is directly connected to any of a source line and a drain electrode of the second TFT”. Although the specification does mention “the switch S1 is turn on according to the select signal ... the data voltage Vdata is supplied to the data line ... the current flows to the OLED via the transistor M1 to emit light... (page 8, lines 15-19). There is no support for the above quoted limitation. Similarity, there is no support for the limitations “a first switch having a control terminal couple to the scan line, and having a first terminal and second terminal respectively coupled directly to the data line and a source line of a second TFT.

b) Claims 1-16 and 22-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Although the specification does mention the switch S1 is turn on according to the select signal ... the data voltage Vdata is supplied to the data line ... the current flows to the OLED via the transistor M1 to emit light... (page 8, lines 15-19) , the specification is not enabling as to how one of ordinary skill would actually connect one end of the first switch is directly connected to the data line and the other end of the first switch is directly connected to any of a source electrode and a drain electrode of the second TFT” (claim 1); or : “a first switch having a control terminal couple to the scan line, and having a first terminal and second terminal respectively coupled directly to the data line and a source line of a second TFT ” (claim 22).

The examiner examines the case base on the best understood of the claim language..

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 15-18, 22 and 31-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Bae et al. (U. S. Patent No. 6,580,408).

In reference to claims 1 and 22, Bae discloses electroluminescent display device in Fig. 3 comprising: an organic electroluminescent (EL) element for emitting light corresponding from a current supply Vdd; a switch T4 (corresponding to the first switch) for switching data voltage supplied to a data line D1 in response to a select signal supplied from a scan line G1; a first thin film transistor T2 (corresponding to the first TFT) for supplying the current to the organic EL element in response to the data voltage supplied to the gate of the first TFT (T2) via first switch (T4); a second TFT (T3) having a gate coupled to the gate of the first TFT (T2); and a capacitor A for maintained the data voltage supplied to the gate of the first TFT as claimed. In addition, Bae discloses that a pixel is selected by the first TFT T1, which functions as a selection TFT, thereby supplying the selected pixel with current from a current driver. Then, current starts to flow in the second TFT T2, which functions as a driving TFT for the current mirror. Therefore, the diode EL emits light when the TFT T2 is being driven (col. 5, lines 1-20).

In reference to claims 15 and 31, because the TFT (T3) and (T2) having the gate coupled together, therefore their threshold voltage is almost identical.

In reference to claims 16 and 32, Fig. 3 shows that the TFT T3 and T2 are parallel to the scan line and formed on the same line as claimed.

Claim 17, Bae discloses electroluminescent display device associated with a method, electroluminescent display device comprising: data driver for representing image signals to the

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data lines; a gate driver supplying select a signal to the scan lines (col. 4, lines 16-21). Switch T4 for switching data voltage to the data lines in response to the select signal... The TFT T3 for compensating and transmitting the supplied data voltage to reduce a threshold voltage deviation of a current driving TFT....

In reference to claim 18, Bae discloses until the first gate line G1 is selected again, a storage capacitor C_{sub}STO maintains the voltage at the node A to turn on the second TFT T2 to function as a driving switch for supplying the diode EL with a fixed current for emitting light. Note that the current that is flowing in the diode EL, which is connected to the second TFT T2 by the current mirror including the third and second TFTs T3 and T2, is controlled by the initial data current that is input to the third TFT T3 (col. 4, lines 44-52).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae as applied to claims above, and further in view of Kane (U. S. Patent No. 6,229,508)

In reference to claims 19-21, Bae fails to disclose that the control signal is an additional external reset signal. Kane discloses an auto zero line (previous scan line 382) corresponding to the external reset signal as the control signal to initial the data voltage supplied to the gate line of

the TFT. It should be noted that Autozero line 382 from a previous row can be implemented as a second Select line. Namely, the timing of the present pixel is such that the Autozero line 382 from a previous row can be exploited without the need of a second Select line, thereby reducing complexity and cost of the present pixel (col. 3, lines 45-62).

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to provide the teaching of Kane, i.e.: provide the external auto zero line from previous row to initialize the data voltage to the gate of the TFT for reducing complexity and cost of the pixel.

Response to Arguments

6. Applicant's arguments, see page 10-11 of the Amendment, filed 1/22/04, with respect to the 102 and 103 rejections have been fully considered but not persuasive as the reason elaborated in this Office Action (see the 112 First Paragraph rejections above).

Allowable Subject Matter

7. Claims 2-14, 23-30 and 33-34 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:
none of the cited prior arts teaches or suggests "the OELD of claim 1, wherein the OELD further comprises a second switch for initializing the data voltage supplied to the gate of the first TFT in response to a control signal."

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **DUC Q DINH** whose telephone number is **(703) 306-5412**. The examiner can normally be reached on Mon-Fri from 8:00.AM-4:00.PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on **(703) 305-4709**.

Any response to this action should be mailed to:

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Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive,
Arlington, Va Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office whose telephone
number is (703) 305-4700.


REGINA LIANG
PRIMARY EXAMINER

DUC Q DINH
Examiner
Art Unit 2674

DQD
April 2, 2004